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John Ise
Iowa State College

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A Chapter in the Early History of the United States Forest Policy *

JOHN ISE, Ph.D., LL.D.

Assistant Professor of Economics, Iowa State College

THE EARLY SETTLERS AND THE FORESTS

The attitude of the early settlers toward the timber resources of the country was generally one of carelessness or even hostility. This was only natural and inevitable, since in most regions the land was covered with forests, which must be cleared off before agriculture was possible, which represented only an obstacle to the spread of civilization—a negative value. Toward a resource which at first seemed inexhaustible and only a bar to progress, there could at least be no attitude of conservation.

The British policy of reserving the timber lands was regarded with undisguised hostility.¹ The British officials tried to maintain the King's prerogative in the woods, virtually creating royal forests, in an attempt to stimulate the production of naval stores for the mother country.² It was in New York and New England, where the white pines, so much valued for masts, were plentiful, that the royal prerogative was chiefly exercised, and there the colonists bitterly resented this policy.

These British regulations showed some of the elements of a conservation policy on the part of the ruling country, and the attitude of some of the officials showed that there was a real concern for the future supply, at least of ship timber. Thus in 1701 the Governor of New York expressed his fear that the sawmills would destroy all the timber in that colony; and in 1770 Lord Bellomont, Governor of New York, recommended that each person who removed a tree should pay for planting four or five young trees. Still earlier than this, as far back as 1696, the attention of the French Governors of Canada had been directed to the wasteful destruction of the forests.³

¹Ford, *Colonial Precedents of Our National Land System*, 145.

²Edward Randolph was surveyor of woods and timber in Maine in 1656, and he marked and registered many large trees for royal masts and bowsprits. Adolphus Benzel was appointed inspector of His Majesty's woods and forests in the vicinity of Lake Champlain in 1770. (Fox, *History of the Lumber Industry in N. Y.*, 16.)

³Fox, *History of the Lumber Industry in N. Y.*, 16. Phipps, R. W., *Report on the Necessity of Preserving and Replanting Forests*. (Toronto, 1883.)

There appeared in a few instances, even on the part of the early settlers themselves, indications of some regard for the future timber supply; although it is probable that this regard was inspired or in some cases even compelled by the royal Governors. In 1680 the inhabitants of Exeter, New Hampshire, adopted a general order for the regulation of the cutting of oak timber, and this example was followed by other towns. In 1656 Dover, New Hampshire, passed an ordinance to prevent waste of pipe-stove or clap-board timber. At a town meeting in Portsmouth in 1660 a penalty of five shillings was imposed upon any inhabitant who should cut timber upon the common, except for building, fencing or firewood; and Massachusetts, as early as 1668, reserved for the public use all white pine trees two feet in diameter or over. In 1708 the New Hampshire provincial assembly forbade the cutting of mast trees on ungranted lands. In 1681 William Penn stipulated in his ordinances regarding the disposal of lands that for every five acres cleared of forest growth, one acre should be left to forest. Stringent regulations against forest fires were made by several of the New England colonies previous to 1650.⁴

In 1795 the Society for the Promotion of Agriculture, Arts and Manufactures published a report on the best method of preserving and increasing the growth of timbers, recommending that lands least valuable for agriculture be devoted to forests. In 1804 the Massachusetts Society for the Promotion of Agriculture offered prizes for successful forest plantations.⁵

THE UNITED STATES NAVAL RESERVES

This early interest in forestry matters does not, of course, represent a common sentiment among the people, yet it is significant. It was due to the fact that the extent of our forest domain was then entirely unknown, the population confined mainly along the Atlantic coast, and in the absence of railroad communication, only the supplies of timber adjacent to rivers and sea were available. Furthermore, just as in Europe, the

⁴Proceedings of the American Forestry Congress, 1885; 40, 41, 58: Fernow, *Economics of Forestry*, 369. It is recorded of the Pennsylvania Germans that they were economical in the use of wood, even where it was abundant. They did not wantonly cut down forests or burn them, and when using wood as fuel, they built stoves, in which there was less waste than in the open fire-places. The German of the 19th Century likewise proved himself a friend of the trees. Through his early training at home, he understood the usefulness of forests. (Faust, *The German Element in the U. S.*, II, 56-58.)

⁵Fernow, *Ec. of Forestry*, 369. Proceedings, American Forestry Congress, 1885, 58.

fuel question was becoming acute in some places, since coal had not yet been brought into use. Location of timber supplies close to centers of civilization was of great importance.

The first action of the United States Government in regard to timber lands had no connection with these early signs of conservation, but somewhat like the British regulations already referred to, was concerned with the matter of national defense. As early as 1799 the President was authorized to expend \$200,000 for the purchase of timber or timber lands suitable for the navy and to have it reserved for future use.⁶ Florida and Louisiana contained most of the oak timber then known to exist, oak being recognized as the most valuable timber, and as that region was in foreign hands, little was done for some time, only a few small purchases being made along the Georgia coast.⁷

In 1817, however, the Secretary of the Navy was enjoined to explore and select tracts of land producing oak and red cedar.⁸ In the same act a penalty was imposed for cutting such timber from these lands or any other public lands of the United States. In 1822 the President was empowered to use the land and naval forces of the United States to prevent cutting of timber in Florida,⁹ and in 1827 was authorized to take proper measures to preserve the oak timber on the public lands, and to reserve such lands anywhere on the public domain. Not only was provision made for the reservation of these lands, but in Florida a system of cultivation was undertaken, with various experiments in transplanting, etc.—the first efforts at experimental forestry on the part of the United States Government.¹⁰

In 1831 a law was passed forbidding the removal of oak, red cedar, or *any other timber* from these reserved lands, or from *any other lands* of the United States.¹¹ The act of 1817 had prohibited the cutting of oak or red cedar from all the public lands of the United States, but this was the first general act applying to the entire domain, and to all kinds of timber.

Under the act of 1817 and subsequent acts, 244,452 acres of

⁶Stat. I: 622.

⁷Hough, Franklin B., Report on Forestry, made in pursuance of the act of Congress of August 15, 1876. (Three volumes, published in 1877, 1878 and 1882 respectively.) Vol. I, 9.

⁸Stat. 3: 347.

⁹Stat. 4: 242.

¹⁰Hough, III, 380.

¹¹Stat. 4: 472. In *U. S. vs. Briggs*, (9 Howard; 351), the Supreme Court of the United States held that this statute applied to all the public lands of the United States whether reserved for naval purposes or not.

timber land were reserved, but these reservations were, of themselves, never of any great importance, and in 1879 provision was made for restoring and opening to sale any not needed for naval purposes.¹²

While these were thus naval reservations,¹³ related to the King's forest policy of colonial times rather than to the forest reserve policy of later years, yet they were of sufficient importance to merit brief treatment for several reasons. In the first place, they showed a disposition to conserve a natural resource of which future scarcity was apprehended. If naval construction had not in the sixties turned to iron ships, possibly these early reservations might now be recognized as marking out a policy of the greatest importance. In the second place, it was in connection with these reserves that the first laws were passed for the protection of timber on the public domain, the law of 1831 being the ruling statute on the subject of timber depredations down to the year 1878, and often used even to the present time. Furthermore it seems that the first appropriations for protecting timber lands were closely connected with these naval reserves, for in 1872, the first appropriation, \$5,000, for the protection of timber lands, was made in the Naval Appropriation Act.¹⁴

GENERAL INDIFFERENCE IN THE EARLY NATIONAL PERIOD

These early forest reserves are thus seen to be of importance only because of the legislation arising from their administration, and incidentally useful in its application to timber on the public domain. It is even true that the very period during which they were being created (1817-1858) was a period when destruction of timber was going on with least opposition from conservation forces. There had been as already seen, some interest in timber preservation in the colonial period, and later, but with the rapid development of the country, the opening up of new means of transportation, and with the use of coal as fuel, the apprehensions regarding timber supplies seem almost to have vanished.

Between 1820 and 1870 the population more than quadrupled, a vast number of farms were carved out of the forest, the timber,

¹²Hough, I, 11; Stat. 20: 470. See also S. 196; 50 Cong. 1 Sess.

¹³The military character of this legislation is shown in one of the acts passed in 1833, which provided that all collectors of the customs in Florida, Alabama, Mississippi and Louisiana, should ascertain that any timber leaving port was lawfully cut, before allowing clearance to the vessel carrying it.

¹⁴Stat. 17: 151.

in the absence of a ready market being largely burned.¹⁵ "Pines and oaks were remorselessly felled, and every settlement showed what Flint called 'a Kentucky outline of dead trees and huge logs lying on all sides in the fields.' Underbrush was fired with wanton carelessness and thousands of acres of valuable timber went up in smoke." Lumbering became more of a commercial business, with larger mills operating. In 1870 there were in the United States 26,945 lumber manufacturing establishments, employing 163,637 hands, who, using capital aggregating \$161,500,-273, produced a product valued at \$252,339,029, a greater product than any other manufacturing industry except flouring and grist mills.¹⁶ All this indicates a very effective despoiling of the public timber lands, for many of the mills worked on the public lands.

EARLY CONSERVATION SENTIMENT

A few warning voices called out against forest destruction even during this period. As early as 1799 the French naturalist, Michaux, in his work on "The North American Sylva," spoke warningly of the rapid destruction of trees. "In America," he said, "neither the Federal Government nor the several states have reserved forests. An alarming destruction of the trees proper for building has been the consequence—an evil which is increasing and which will continue to increase with the increase of population. The effect is already very sensibly felt in the large cities, where the complaint is every year becoming more serious, not only of excessive dearth of fuel, but of the scarcity of timber. Even now inferior wood is frequently substituted for the White Oak; and the Live Oak so highly esteemed in ship building, will soon become extinct upon the islands of Georgia."¹⁷

A book published in Boston in 1830 contains the following: "The indiscriminate clearings of the agricultural settlers and the conflagrations which occasionally take place, are the causes which in a few centuries may render North America no longer an exporting country for timber."¹⁸ In 1832 J. D. Brown, in

¹⁵Coman, *Economic Beginnings of the Far West*, II, 50; Fernow, *Economics of Forestry*, 371; Flint, *Last Ten Years*, 232; Levering, *Historic Indiana*, 480; Trollope, *Domestic Manners of the Americans*, 23; *Proceedings, American Forestry Association*, 1894-'95-'96, 81.

¹⁶U. S. Census, 1870.

¹⁷Michaux, F. Andrew, *The North American Sylva*, 4 (Paris, 1819).

¹⁸*Library of Entertaining Knowledge; Vegetable Substances, Timber Trees*, p. 97.

his *Sylvia Americana* wrote: "Though vast tracts of our soil are still veiled from the eye of day by primeval forests, the best materials for building are nearly exhausted. And this devastation is now become so universal to supply furnaces, glass houses, factories, steam engines, etc., with fuel, that unless some auspicious expedient offer itself and means speedily resolved upon for a future store, one of the most glorious and considerable bulwarks of this nation will within a few centuries be nearly extinct. With all the projected improvements in our internal navigation, whence shall we procure supplies of timber fifty years hence for the continuance of our navy? The most urgent motives call imperiously upon our government to provide a seasonable remedy for such an alarming evil."¹⁹

In 1837 Massachusetts provided for a special survey of the state's forest resources and after several years' work George B. Emerson published his "Report on the Trees and Shrubs Naturally Growing in the Forests of Massachusetts." Professor Emerson was one of the earliest advocates of forest conservation in America.²⁰ In 1855 R. U. Piper of Woburn, Massachusetts, in his book on "The Trees of America," made an extended appeal for forest protection and for the planting of trees. "It seems that the supply of many kinds of wood which are necessary for mechanical purposes is becoming so uncertain as to make it a matter of serious inquiry what is to be done in our own day to meet the demand," he complained. "When Canada has exhausted her supply, which she must at some time do, where are we to go? In our enjoyment of the present we are apt to forget that we cannot without sin neglect to provide for those who are to come after us. It is a common observation that our summers are becoming dryer and our streams smaller, and this is due to forest destruction, which makes our summers dryer and our winters colder." Piper quoted from William Cullen Bryant to show that the rivers in Spain were drying up because of the destruction of forests.

Five years later Harland Coultas spoke of the "formidable scale" on which the woods were disappearing. "In America we are in danger of losing sight of the utility of the woods," he said. . . . "If we remove trees from the mountain side,

¹⁹Brown, D. J., *Sylvia Americana*, Preface, p. V.

²⁰See Proceedings American Forestry Congress, 1885, p. 62.

from a low sandy coast, or from an inland district only scantily supplied with water there is no end to the mischievous consequences which will ensue. By such ignorant work as this the equilibrium in the Household of Nature is fearfully disturbed."²¹

In 1867 the committee appointed by the legislature of Michigan to investigate forest destruction reported: "The interests to be subserved, and the evils to be avoided by our action on this subject have reference not alone to this year or the next score of years, but generations yet unborn will bless, or curse our memory according as we preserve for them what the munificent past has so richly bestowed upon us, or as we lend our influence to continue and accelerate the wasteful destruction everywhere at work in our beautiful state."²² In 1868 George P. Marsh published his famous work on "Man and Nature," in which he discusses at great length the effects of forest destruction upon climate, rainfall and floods.²³ This book had a very great influence and was frequently cited by the early conservationists. A few years later the *Overland Monthly* published an able article by Taliesin Evans on the relation of conservation to lumber exports;²⁴ and about the same time N. U. Beckwith wrote in the *Canadian Monthly* of the "habitual, wicked, insane waste of lumber" in Canada.²⁵ As early as 1873 Verplanck Colvin was urging the Legislature of New York to buy up the forests at the sources of the Hudson.

The year 1872 marks the date of several events of importance in the forestry movement. In that year \$100,000 was given to Harvard College by the will of James Arnold to establish in the Bussey Institution a professorship of tree culture and maintain an arboretum;²⁶ while in a western state, Arbor Day was celebrated for the first time at the instance of Governor Morton of Nebraska.²⁷

Leonard B. Hodges, one of the foremost of the early conser-

²¹Coultas, Harland, *What May be Learned from a Tree*, 179.

²²Michigan, House Documents, No. 6, 1867.

²³pp. 128-329.

²⁴*Overland Mo.* 6: 224 Mar., 1871.

²⁵June, 1872.

²⁶In 1835 Benjamin Bussey of Roxbury, Massachusetts, had provided for a school of agriculture and horticulture as a department of Harvard College, and in 1870 the school had been opened. (Hough, I, 216.)

²⁷According to some accounts the Arbor Day idea originated in 1865, with B. G. Northup, Secretary of the Connecticut Board of Education. (Forestry and Irrigation, April, '08, 201.) Fernow thinks perhaps the institution of Arbor Day hurt the forestry movement by leading people into the misconception that forestry consists in tree planting. (Fernow, *Economics of Forestry*, 379.)

vationists, did more than preach, for in 1874 he issued his "Practical Suggestions on Forest—Tree Planting in Minnesota," and as Superintendent of Tree Planting for the St. Paul and Pacific Railroad he did a great deal to stimulate timber planting on the prairies. In 1876 James Little of Montreal, one of the earliest writers on forestry, called attention to the suicidal destruction of timber in Canada and in the United States and presented a vast array of statistics to prove that a single decade would "make a clean sweep of every foot of commercial wood in the United States east of the Pacific slope."²⁸ It was in 1876 also that the first forestry associations were formed—the American Forestry Association at Philadelphia, and a state association at St. Paul, Minnesota. The American Forestry Association never thrived and was later (1882)²⁹ absorbed into a new association.

INTEREST SHOWN BY GOVERNMENT OFFICIALS

Several Government officials saw the need of forest protection. In 1849 the Report of the Commissioner of Patents contained the prophesy that: "The waste of valuable timber in the United States will hardly begin to be appreciated until our population reaches 50,000,000. Then the folly and short-sightedness of this age will meet with a degree of censure and reproach not pleasant to contemplate."²⁹ The report of the same office for 1860 contained a long article by J. G. Cooper, in which the effect of forests on climate and health was discussed at length.³⁰ This, it may be noted, was a favorite theme with conservationists of the time, the effect of forests on climate, especially on rainfall, being often exaggerated.

In 1866 Commissioner of the Land Office, Joseph M. Wilson, declared that the supply of timber in the lake states was "so diminishing as to be a matter of serious concern." Commissioner Wilson was especially interested in the matter of tree planting on the plains and in both succeeding annual reports he devoted considerable attention to this matter. In his report for 1868 he gave a long and detailed account of forest conditions in various countries of the world; pointing out warningly the climatic changes which in Spain, southern France, Italy, Asia

²⁸James Little, *The Timber Supply Question of Canada and the United States*.

²⁹Report, Com'r. of Patents, 1849. Pt. II, 41.

³⁰p. 416.

Minor and other regions were supposed to have resulted from the destruction of the forests. Commissioner Wilson predicted that within forty or fifty years our own forests would have disappeared while those of Canada would be approaching exhaustion. "Our live-oak, one of the best ship timbers in the world," he said, "abundant enough at one time to have supplied, with prudent management, our navy yards and ship-builders for generations, may be for all practical purposes considered as exhausted. Our walnut timber . . . will soon share the same fate. . . . Next we may expect a scarcity in our ash and hickory timber, so much sought after by the manufacturers of agricultural machines and implements." Like other writers of this period Commissioner Wilson put considerable emphasis upon the climatic influence of forests, claiming that in several of the Eastern states, the destruction of forests had brought such extremes in climate that fruit raising, and even the raising of wheat had become a very uncertain business.³¹

In 1870 R. W. Raymond, United States Commissioner of Mining Statistics, wrote in forcible terms of the wanton destruction of timber in the mining districts of the Rocky Mountain and Pacific Coast states.³² Two years later Willis Drummond, Commissioner of the Land Office, called attention to the importance of protecting the forests of the public domain from waste and spoliation.³³ In 1872 also, C. C. Andrews made a report to the Department of State on the forests and forest culture of Sweden. In 1873 John A. Warder, commissioner of the United States at the Vienna International Exposition, prepared his "Report on Forests and Forestry," which was printed two years later. It contained an interesting account of the forestry exhibit at the exposition, and an appeal for better methods in the United States.

STATE ACTION

Several of the states early evinced an interest in forest problems. In 1867 commissioners were appointed in Wisconsin to "ascertain and report in detail to the legislature certain facts and opinions relating to the injurious effects of clearing the land of forests upon the climate; the evil consequences to the

³¹Reports, Land Office; 1866, 33; 1867, 131, 135; 1868, 173-199, 190, 191.

³²House Ex. Doc. 207; 41 Cong. 2 Sess., 342.

³³Report Land Office, 1872, 26, 27.

present and future inhabitants, the duty of the state in regard to the matter; what experiments should be made to perfect our knowledge of the growth and proper management of forest trees; the best methods of preventing the evil effects of their destruction; what substitutes for wood can be found in the state, and generally such facts as may be deemed most useful to persons desirous of preserving and increasing the growth of forest and other trees in the state." In fulfillment of this modest duty the commission made some investigations and submitted a report, like Commissioner Wilson the following year, pointing to Palestine, Egypt, Spain and Southern France as dreadful examples of national ruin due to forest denudation.³⁴

Early in the same year that the Wisconsin commission was making investigations, T. T. Lyon and Sanford Howard sent a memorial to the Legislature of Michigan, in which they claimed to have noticed unfavorable changes in climate due to the destruction of the forests. In response to this memorial the legislature appointed a committee of investigation, and this committee made a report in February, 1867, in which, like the Wisconsin commission, they put great emphasis on the climatic influence of forests. They also prepared and introduced into the legislature a bill providing for timber culture.

In 1869 the Maine Board of Agriculture appointed a committee to present to the legislature suggestions as to a forest policy, and to call the attention of Congress to the subject.³⁵ The question of forest conservation had been discussed in New York even during the time of DeWitt Clinton, but the first action came in 1872 when a law was passed naming seven citizens as a State Park Commission and instructing them to make inquiries with a view to reserving or appropriating the wild lands lying northward of the Mohawk. The commission, of which Verplanck Colvin was a member, recommended a law forbidding further sale of state lands.³⁷ Minnesota appropriated money to aid the Forestry Association formed in St. Paul in 1876. In 1877 Con-

³⁴Report Wis. Commission of 1867. This commission, however, expressed a very reasonable and judicious opinion as to the effects of forests on rainfall. From some writings of this time one might almost believe that forest denudation was the most common cause of the fall of nations.

³⁵Hough, I, 207.

³⁷American Forestry, Dec., 1910, 695; Fernow, Economics of Forestry, 382; Proceedings, Am. Forestry Assoc., 1894-'95-'96, 145.

necient provided by law for a report on forestry, and an expert was sent to Europe to get the material for this report.³⁸

In 1864 California passed a law forbidding the cutting of trees on state lands, but rendered the law practically inoperative by a proviso that it should not apply to timber cut for manufacture into lumber or firewood, for tanning or agricultural or mining purposes. In 1872 California passed a law against setting fire to forests, and in 1874 a law to protect the big trees—applying only to trees over sixteen feet in diameter. Other states had of course preceded California in the protection of forests against fire. In 1876 Colorado included in her constitution a section relating to protection of forests.³⁹

ACTION OF THE ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

More fruitful of immediate results than most of this state legislation was the adoption in August, 1873, by the American Association for the Advancement of Science, of a resolution providing for the appointment of a committee to memorialize Congress and the several state legislatures on the importance of forest preservation and to recommend needed legislation.⁴⁰ The committee appointed was composed of F. B. Hough of New York, George B. Emerson of Boston, Prof. Asa Gray of Cambridge, Prof. Whitney of California, Prof. William H. Brewer of New Haven, and other pioneers of conservation. At a preliminary meeting in Boston a sub-committee composed of George B. Emerson and F. B. Hough was appointed to give personal attention to the matter. After much deliberation and consultation with several members of Congress, with the Secretary of the Interior, the Commissioner of the Land Office, and even with the President, this sub-committee adopted a memorial to Congress calling for a commission of inquiry. The response to this memorial will be noted later.⁴¹

³⁸Hough, I, 200.

³⁹Ibid. The same constitutional convention that drew up the Colorado constitution also adopted a strongly conservationist memorial to Congress, asking for the transfer to the state of all the timber lands on the public domain within the state. The motive behind this is betrayed by Colorado's later energetic opposition to the Federal forest policy.

⁴⁰Sen. Ex. Doc. 28; 43 Cong. 1 Sess.

⁴¹Rept. Wis. Comm., 1897, 6. Even as late as 1885, in the Proceedings of the American Forestry Congress, the influence of forests on climate was mentioned first of all among the considerations noted as actuating the forestry movement.

INTEREST IN TIMBER CULTURE, REASONS FOR ITS EARLY APPEARANCE

It may seem strange that interest should have developed regarding the planting of new trees before there was any general interest in the preservation of forests already grown; but without doubt the matter of tree planting was of greater interest in the early seventies than any other subject relating to forestry.

In forested states and regions, interest in timber protection was naturally slow to develop. In those sections of the country where most of the timber was gone, as for instance in New England, considerable interest had arisen, but even here forest preservation occupied a less conspicuous place than forest planting in the minds of many conservationists. Thus the prizes offered by the Massachusetts Society for the Promotion of Agriculture very early in the century, were for forest plantations, not for conspicuous service in the preservation of forests. R. U. Piper's appeal referred to above was mainly for planting of trees rather than protection. So also was the appeal of Commissioner Wilson, and most of the agitation during the early period.

In forested regions where a large supply of timber still existed, as for instance in the West and in some parts of the Lake states, there was of course very little general interest in forest preservation; and even where the supply of timber was observed to be disappearing rapidly and some public interest was aroused, timber companies were strong enough politically to block any important protective legislation. Furthermore, much of the forest land still belonged to the Federal Government, and stealing from the Federal Government has frequently been regarded with indifference or approval by the public land states. For all these reasons interest in the protection of forests was slow to develop, and legislation generally impossible.

Interest in tree planting, on the other hand, was stimulated by several factors, and there were no commercial forces opposed to legislation. The Central-western states were being rapidly peopled, and here the scarcity of timber was immediately felt as a hardship, while periods of drouth in some of the prairie states led to great interest in the question of the relation of forests to rainfall. There was yet a lack of scientific knowledge as to the exact relation of forests to climate, and the consequent exaggeration by some writers as to the effect of forests in this

respect doubtless had influence. In the states once timbered but now largely barren of merchantable timber, observers claimed to note climatic changes and were demanding reforestation; and since no commercial forces were opposed to this demand, it was easily enacted into law.

STATE TIMBER CULTURE LAWS

The first timber culture act was passed in Kansas, in 1868, offering a bounty of \$2 per acre for timber successfully cultivated for three years. Wisconsin followed with a similar law the same year,⁴³ while Iowa passed a law providing for a tax exemption of \$100 for ten years, for every acre so planted. During the following decade laws providing either bounty or tax exemption were passed in the following states: Nebraska and New York (1869); Missouri (1870); Minnesota (1871); Maine (1872); Nevada (1873); Illinois (1874); Dakota, Connecticut, Wyoming and Washington (1877); and Rhode Island (1878). During the same period a number of state laws were passed to foster the planting of trees along highways.⁴⁴ The net result of all timber culture legislation was, however, very small, and many of the laws were soon repealed.

TREE PLANTING BY RAILROADS

The general interest in the subject of tree planting is shown, not only by the state legislation, but also by the activity of various railroads in such experiments. In 1870 the Kansas Pacific Railroad began experiments at three stations, but soon gave them up.⁴⁵ In the same year the Saint Paul and Pacific Railroad began experiments in the prairie districts along its course. In 1872 the Burlington and Missouri River Railroad Company of Nebraska planted trees along the Platte River. In 1873 the Saint Paul and Sioux City Railroad began experiments, and the same year the Santa Fe established three nurseries in Kansas. In 1875 the Northern Pacific, and two years later the Southern Pacific, decided on a similar policy.⁴⁶ The purpose of the railroads in this work was to demonstrate the value of their land, to test the value of certain woods for railroad purposes,

⁴³Hough, I, 205, 206, 213.

⁴⁴Proceedings, Am. Forestry Congress, 1885, 61.

⁴⁵Hough, I, 20 et seq.

⁴⁶Fourth Biennial Rept., Calif. State Board of Forestry, 1891-92.

and to remove the sterile appearance of railroad stations; and while direct results were generally disappointing, the experiments helped to give a knowledge of the adaptability of different trees to various soils and climates, and at least taught many people what not to expect from prairie forestry.

CONGRESSIONAL ACTION, FACTORS AT WORK IN CONGRESS

Attention has now been called to the growth of a conservation sentiment, and to various lines of state activity in the matter of forest creation and preservation. Before entering into a discussion of the action of the Federal Congress, it will be necessary to point out some of the various influences at work there during the seventies. The Government officials having charge of the forests on the public lands, the Secretaries of the Interior, and the Commissioners of the Land Office, although many of them western men with the western bias on public land questions, were generally awake to the dangers of forest destruction, and called out insistently for better laws and better means of enforcement. In 1878 the annual message of President Hayes called special attention to the need for forest preservation.⁴⁷ An increasing number of scientific men were working toward the same end, either alone or with commissions or forestry associations, or with learned societies, such as the American Association for the Advancement of Science; while slowly following these leaders, a public opinion was developing, stimulated by the disappearance of forests in many parts of the country, particularly in the East. Perhaps, too, the general moral tone of the country was rising from the low level to which it had sunk in the years following the Civil War. Dr. Fernow says timber prices were rising,⁴⁸ but there seems to be some doubt as to whether there was any general rise in prices during this time; and even granting that there was, it is a debatable question whether it was a factor favorable to conservation. It might perhaps have had influence in arousing public interest, but it also would have made timber stealing more profitable.

Factors hostile to conservation were at work at all times, and they developed strength rapidly. The timber interests had been fattening on Government lands, and had become a power in

⁴⁷Cong. Rec.: Dec. 2, 1878, 6.

⁴⁸Fernow, *Ec. of Forestry*, 469 (Appendix).

Congress, especially since they were allied with some of the land-grant railroads. Throughout the West the miners also needed timber in their business, and were therefore opposed to conservation, while even agricultural settlers near the timber districts always felt that they were entitled to free timber, and opposed any restriction on its disposal. Stock men had no particular interest in the timber lands at this time but they could be depended upon to line up with the other western men. It will be seen that these four classes included a working majority in most of the western states, and the admission of several new states had strengthened the forces naturally opposed to conservation. In 1850 California had been admitted; in 1858 Minnesota; and during the next decade Oregon, Kansas, Nevada and Nebraska, while Colorado was admitted in 1876.⁴⁹ These new states gave the anti-conservation forces great strength, especially in the Senate, a strength out of all proportion to mere numbers; first, because these forces, having interests at stake, were active, while the conservationists in Congress, having no pecuniary interests in the matter, were usually half-hearted; and secondly, because western men always constituted a majority in the Committee on Public Lands, and thus exerted a disproportionate influence in all land legislation.

A further factor opposing conservation was the great railway development in the early seventies. It not only called for considerable timber in construction, but by the vast grants of lands, in some cases timber lands, gave the railroads an interest hostile to conservation. Furthermore, it opened up vast tracts of timber lands previously safe from spoliation.

These then were the factors at work. There were of course no definite conservation and anti-conservation parties in Congress as early as this, yet the forces were there, and as soon as the conservationists became strong enough to attempt legislation, the anti-conservation forces united in opposition to them.

CONSERVATION ACTIVITY IN CONGRESS

Probably we can attach little significance to the grant of \$10,800 in the annual appropriation bill of 1868, for various pur-

⁴⁹Kansas and Nebraska, it is true, had no forests of importance, and not enough mines to affect their attitude, but on most questions they were at this time with the West.

poses including the purchase of *trees, vines and bulbs*.⁵⁰ This item appeared each year thereafter, but doubtless the purchase and distribution of seeds, bulbs, vines, etc., among the people is significant rather of the quality of American statesmanship than of any great interest in forestry.

The first appropriation for the protection of timber lands, in the Navy Appropriation Act of 1872, has been mentioned. There had been of course some effort to protect the timber lands long before this. A system of timber agencies had been established very early, but discontinued in 1854, when the supervision was transferred to the Department of the Interior.⁵¹ In 1855, however, a circular had been issued by the Department of the Interior directing the land officers to investigate any reports of spoliation of public timber lands and to seize all timber cut from such lands and sell it at public auction; while they were to notify the proper officers so that the trespassers might be arrested. No compromise was permitted.

This circular remained the basis of regulation down to 1877, but a lack of effective enforcement is indicated by the fact that the total net revenue to the Government, for millions of dollars worth of timber taken, from the beginning of records to January, 1877, was only \$154,373. Complaints from the timbermen would, however, indicate that the efforts of the Government were not entirely ineffective, at least in the region of the Lake states. Thus as early as 1852 Congressman Eastman of Wisconsin spoke bitterly of the manner in which "the whole power of the country, in the shape of the United States marshals, and a whole posse of deputies and timber agents appointed by the President without the least authority of law," had been "let loose upon this devoted class of our citizens (the timber men)." "They have been harassed almost beyond endurance with pretended seizures and suits, prosecutions and indictments," he said, "until they have been driven almost to the desperation of an open revolt against their prosecutors."⁵² Representative Sibley of Minnesota also complained of the "unrelenting severity" with which timber men were pursued, although he admitted that the timber operators in the states farther west were little molested.⁵³

⁵⁰Stat. 13: 155.

⁵¹Hough, I, 12.

⁵²Cong. Globe; 32 Cong. 1 Sess., Appendix, 851

⁵³Cong. Globe; 32 Cong. 1 Sess., Appendix, 486.

In 1877, Secretary of the Interior, Carl Schurz, inaugurated the system of special agents for the detection of timber trespasses.⁵⁴ Before 1872, however, it was a rule that the expenses incurred should generally be limited to the amount realized from the sale of the timber seized,⁵⁵ so that little was actually done. Even the \$5,000 given in that year (1872) was of course totally inadequate, but it was a beginning, and each year following a like amount was appropriated, until 1878 when it was raised to \$25,000.⁵⁶ While the appropriation of 1872, and likewise that of 1873 and 1874, was made in connection with the navy, its use was not restricted to the naval reserves; and that there was in Congress some purpose to protect timber in general is shown by several extra appropriations made in addition to the annual sum provided, \$10,000 being thus given in the Sundry Civil Act of 1872.⁵⁷

In the years beginning with 1872, a number of bills appeared in Congress for the protection of timber. In that year Senator Windom of Minnesota introduced a bill into the Senate,⁵⁸ while Representative Haldeman of Pennsylvania introduced two bills into the House, one of which was debated at considerable length.⁵⁹ This latter measure provided that all land grants should be made upon the express condition that the grantee should preserve ten per cent of the grant in trees, and it failed in the House by the surprisingly small margin of only seven votes. The debates on this bill indicate that conservation had a few champions in Congress, even at this early date.⁶⁰

In 1874 Representative Herndon of Texas, following out the work of the American Association for the Advancement of Science previously referred to, introduced a bill, "For the appointment of a commission to inquire into the destruction of forests and the measures necessary for the preservation of timber."⁶¹ Representative Dannel of Minnesota, of the Committee on Public Lands, made a long report favoring the proposition,⁶² but the bill made no progress during the Forty-third Congress.

⁵⁴Hough, II, 8.

⁵⁵Hough, I, 13.

⁵⁶Stat. 20: 229.

⁵⁷Stat. 17: 359.

⁵⁸S. 795; Cong. Globe; Mar. 12, 1872, 1588.

⁵⁹H. R. 2197; Cong. Globe; Apr. 3, 1872, 2140; H. R. 3008; Cong. Globe; Dec. 3, 1872, 15.

⁶⁰Cong. Globe, Apr. 17, 1872, 2504; Apr. 30, 2925-2929.

⁶¹H. R. 2497; 43 Cong. 1 Sess.

⁶²H. Rep. 259.

In 1875 Dannel introduced a bill for the appointment of a commission for inquiry into the destruction of forests.⁶⁴ The bill was pigeon-holed, but in August of that year he succeeded in hanging a rider on the seed distribution bill, granting \$2,000 to be spent by the Commissioner of Agriculture for a report on the consumption, importation and exportation of timber, probable supply for the future, best means of preservation and renewal, influence on climate, etc.⁶⁵ This appropriation was a result of the agitation by the American Society for the Advancement of Science, and Dr. F. B. Hough of that society was the appointee. In February, 1877, Dannel secured an amendment to the Sundry Civil Bill, appropriating \$2,000 to complete the report which Hough was working on,⁶⁶ and late the same year the first volume was completed.⁶⁷ Congress evinced further interest in the matter by ordering 25,000 copies of the report for distribution.⁶⁸

THE TIMBER CULTURE ACT

The Timber Culture Act of 1873,⁶⁹ although it had little effect on forest conditions in the United States, must be classed with conservation measures because some of the motives behind its enactment were sincerely favorable to the conservation policy. Just as state action on the subject had begun early, so national interest was shown at an early date and was fostered generally by men from the prairie states. In 1866 Senator Brown of Missouri introduced a bill donating public lands to the "American Forest Tree Propagation and Land Company," for conducting experiments.⁷¹ The same year Senator Harris of New York introduced a bill, "to promote the growth of forest trees on public lands,"⁷² and this bill was reported from the Committee on Public Lands. Senator Cole of California, in 1867, introduced a bill into the Senate, and Senator Ross of Kansas brought in several bills in 1869 and 1870.⁷³ In December, 1871, Senator Wright of Iowa submitted a resolution, "That the Committee on Public Lands be instructed to inquire into the expediency of

⁶⁴H. R. 1810; 44 Cong. 1 Sess.

⁶⁵Stat. 19: 167.

⁶⁶Cong. Rec.; Feb. 23, 1877, 1881.

⁶⁷Benjamin F. Hough, Report on Forestry. Professor Sargent criticised this report severely. (Nation: Jan., 1879, 87.)

⁶⁸Cong. Rec.; Apr. 3, 1878, 2255.

⁶⁹Stat. 17: 605.

⁷¹S. 228; 39 Cong. 1 Sess.

⁷²S. 396; 39 Cong. 1 Sess.

⁷³S. 110; 40 Cong. 1 Sess.; S. 876; 40 Cong. 3 Sess.; S. 50; 41 Cong. 1 Sess.; S. 394, S. 650; 41 Cong. 2 Sess.

requiring homestead settlers on prairie lands to cultivate a certain number of trees," and this resolution was agreed to.⁷⁴

On February 20, 1872, Senator Hitchcock of Nebraska introduced a bill, "To encourage the growth of timber on western prairies."⁷⁵ This bill as introduced, required that 120 acres of each 160 acres should be kept timbered for five years. It was favored by the Commissioner of the Land Office, Willis Drummond, who, however thought the amount of timber required was too great, so this was reduced to 40 acres, while the time was lengthened to ten years. As finally passed,⁷⁶ this act provided that persons planting and maintaining in a healthy condition 40 acres of timber on any quarter section of land might receive a patent for the same. Homestead settlers also might receive patents if at the end of three years they had for two years kept timber growing on one-sixteenth of their claims.

A real conservation purpose is indicated by the debates on this bill, and also by the vote in the House, but the law had been in effect only a short time when certain defects were recognized.⁷⁷ First of all, it required that the trees be planted the first year, the same year the ground was broken. Furthermore the entire 40 acres must be planted the first year, an initial outlay too great for a poor man. Less objectionable was the fact that it did not permit the entry of less than 160 acres. The law had been in force less than a year before efforts at amendment were made by the author of the original bill, Senator Hitchcock, and by Representative Dannel, the stalwart defender of timber culture at all times.⁷⁸ Amendment was accomplished the next year, covering the defects above noted.⁷⁹

Even as amended, the Timber Culture Act failed to produce the results which had been hoped for. It was found impossible to stimulate tree growth by any such means, and settlers who had entered claims under the act were unable to comply with the conditions prescribed. Relief acts of various kinds were passed. In 1876 an act provided that the planting of seeds, nuts or cut-

⁷⁴Cong. Globe; Dec. 12, 1871, 68.

⁷⁵S. 680; Cong. Globe; Feb. 20, 1872, 1129.

⁷⁶Stat. 17: 605. It may be noted that several years later Ontario, following the recommendation of the American Forestry Congress at Montreal, also passed a law to encourage the planting of forest trees, and voted money for the purpose. (Proceedings, Am. Forestry Congress, 1882, 29.)

⁷⁷Cong. Globe; June 10, 1872, 4463, 4464; H. Rept. 66; 43 Cong. 1 Sess.

⁷⁸Cong. Rec.; Dec. 10, 1873, 122; Dec. 15, 1873, 207.

⁷⁹Stat. 18: 21.

tings should be deemed compliance with the act, and in 1878, the entire measure was overhauled in detail,⁸⁰ the chief amendment being a reduction in the amount of timber required from 40 to 10 acres—a considerable reduction from the 120 acres required by the bill as originally introduced.

The Timber Culture Act was predestined to failure, however. The law was intended for the prairie, or so-called semi-arid region and most of the entries were made there; yet, in many of these sections successful tree planting was not to be expected of settlers who came from the humid regions of Iowa or Illinois, or farther east, or even from Europe. These settlers had no knowledge whatever of the climate or soil or of the kinds of trees adapted to the region; were generally ignorant of practical arboriculture and poor in purse. The law was a fraud on the Government, and even sometimes on the settler, for no doubt some took up land in the belief that it must be good since the Government considered that it would grow trees. A far greater number, of course, purposely used the law for the fraudulent acquisition of land; and finally in 1891 it was repealed.⁸¹

In connection with conservation measures we may note that even during the seventies, there appears a suggestion of the national forests of later years, in a bill introduced in 1876 by Representative Fort of Illinois; "For the preservation of the forests of the national domain adjacent to the sources of the navigable rivers and others streams of the United States."⁸² Nothing was done with the bill, and it indicates no special interest in the matter, even on the part of Fort himself, who introduced it "by request," but it was a precedent and shows that the idea of forest reserves had been conceived.

It is now clear that Congress had, in the period ending with 1878, taken some important steps in favor of conservation. The policy of annual appropriations to protect timber had been inaugurated, and in 1878 the appropriation greatly increased; while in 1876, a direct appropriation had been made for forestry investigations; and the creation of forests on the prairies had at least been in good faith attempted. Finally, the policy of forest reserves had been suggested.

⁸⁰Stat. 19: 54, 20: 113.

⁸¹The Nation, Sept. 13, 1883, 220; Donaldson, Public Domain, 501; Rept. Secretary of Interior, 1885, 203.

⁸²H. R. 2076: 44 Cong. 1 Sess.

LEGISLATION UNFAVORABLE TO CONSERVATION, THOUGH NOT APPLYING SPECIFICALLY TO TIMBER LANDS

There was not, however, an unbroken advance, and while in the above we see the germs of future development along lines of forest conservation, during the same time other factors of a different variety appeared, factors whose pernicious influence can only now be fully appreciated.

In the first place, certain acts had been passed, not directly relating to timber lands, yet of great importance in promoting forest destruction. Of these one of the most important was the Swamp-land Act of 1850, granting swamp lands to the various states, on condition that the states would drain and reclaim them.⁸³ This act with subsequent enactments, was the means of divesting the United States of over 63,000,000 acres of land, largely timber land. Florida received over 20,000,000 acres under this act—over half the entire area of the state; Michigan received over 5,600,000 acres; and Minnesota over 4,000,000 acres.⁸⁴

The immense swamp-land grants were secured largely by fraud, for the advantage of private individuals having political influence with the officials of the various states. Some of the states hired agents to make surveys, giving them as much as 50 per cent of the land they could secure from the Federal Government. A great deal of the land was not really swamp land and never needed drainage. Thus, of Florida's vast grant the main portion was not in the southern part of the peninsula, where the lands were in fact swamp. Instances were even found in which swamp land claims and desert land claims appeared side by side.⁸⁵

Almost none of the swamp land granted to the states was ever reclaimed, and most of it was soon improvidently disposed of and taken up by private holders. Thus Florida disposed of 4,000,000 acres of her swamp land in one sale, at twenty-five cents an acre. In all, about 16,000,000 acres of the Florida grant were taken up by railroad, canal and drainage companies. Michigan offered her timbered swamp lands for sale in unlim-

⁸³Stat. 9: 520.

⁸⁴Rept. Public Lands Comm., 1905, 156. Lumber Industry; I, 253, 254; II, 206-236.

⁸⁵Reports, Secretary of Interior; 1885, 193, 199; 1886, 38, 39; 1888, XXIII: Report Land Office; 1899, 29; 1890, XIV. Proceedings of Soc. of Am. Foresters, Nov., 1905. Donaldson, The Public Domain, 220, 221.

ited quantities, at \$1.25 per acre, and granted much of the land which remained unsold to railroad, canal, wagon-road and drainage companies. Nearly 900,000 acres in the Upper Peninsula found its way into the hands of one company—the Cleveland Cliffs Iron Company; and most of the rest was taken up by other large companies. Very little reclamation was ever accomplished, and railroad and canal construction was often only “colorable,” the grants being secured, not by bona fide fulfillment of the terms of the grant, but fraudulently, through control of the state legislatures.⁸⁶

All grants to the states operated in much the same way, and under the various grants for education, internal improvements, etc., nearly 100,000,000 acres, some of it timber land, found its way into the hands of private owners and beyond the reach of conservation measures.⁸⁷ Some of the states sold direct to lumbermen without limitation as to amount. Others allowed entries only in limited amounts to persons alleging intent to settle and taking oath that they had made no agreement to transfer the land to others. Yet even in such states, either by the looseness of the laws or by violation of them, large holdings were built up from state lands.⁸⁸

Agricultural college scrip was often sold outright in large blocks. One company claimed to have bought over 3,000,000 acres of the scrip issued to Kentucky, Indiana, Maryland, North Carolina, New Hampshire, Massachusetts, Ohio and Pennsylvania—two-fifths of the entire amount of such scrip granted to these states.

Some of the general land laws of the Federal Government proved quite as iniquitous as the grants to the states. The Pre-emption law and the commutation clause of the Homestead

⁸⁶Lumber Industry; I, 244, citations in footnotes; II, 198-207, 228-236.

⁸⁷In at least one state, there seems to have been a lack of good faith in the selection of some of these educational grants. California thus selected approximately 40,000 acres of school indemnity lands for which no valid bases were assigned, and as late as 1908 had failed to adjust the matter properly. (Rept. Land Office, 1908, 15.)

⁸⁸In California one holder, Thomas B. Walker of Minneapolis, in later years acquired 100,000 acres of state lands, while three other holders together secured 65,000 acres. In Idaho the Potlatch Lumber Company acquired the timber right on over 77,000 acres of state lands. In Oregon two large timber holdings were later found to consist almost entirely of state school lands in sections 16 and 36. A few of the states, it should be said, displayed some traces of honesty and wisdom in dealing with their lands. Thus Minnesota retained nearly one-third of her total grant of 8,150,000 and from the sale of part of the other two-thirds, and from timber and ore leases, the state finally received about \$27,000,000; while the mineral rights on the ore lands retained will, it is estimated, ultimately bring the state over \$180,000,000. The state of Washington still retains from its grants a very large body of valuable timber lands, and Montana and Idaho hold smaller mounts. (Lumber Industry; I, 252-255; II, 98, 125, 214.)

Act were both used a great deal by timber men and in 1877 the Desert-land Law gave one other means of stealing timber.⁸⁹

Pre-emption rights had been recognized in certain cases even as early as 1799, but the general Pre-emption Act dates from 1841.⁹⁰ Originally this system, by allowing title to go to actual settlers, had put a premium on home making; but when the Homestead Act was passed in 1862 there was no further need for the Pre-emption Law and since under its provisions no permanent residence was required, it was used extensively by timbermen and others to gain title to large tracts of land. Millions of acres were taken up fraudulently under this act. Gangs of men were often employed to make entries, a certain fee being paid for each fraudulent entry. In the redwood district of California large areas of immensely valuable timber lands were acquired under this act, and under the Homestead Act, the sole improvements consisting of huts or kennels totally unfit for human habitation.⁹¹ The head of a large lumber company at Duluth, Minnesota, once stated that he, with his associates, had acquired thousands of acres of pine lands under the Pre-emption Act by simply filing names of persons found in the St. Paul and Chicago directories. This man had a standing agreement with the local land officers whereby they were to permit such entries for a consideration of \$25 per claim.⁹²

In recognition of the fact that misfortune or change of circumstances might befall a settler, Congress provided by a clause in the Homestead Act that any claimant after six months' residence and cultivation might "commute" his entry; that is, purchase the land at \$1.25 per acre instead of getting it free at the end of five years of residence and cultivation. There was no such thing as a separate and distinct law allowing entry with intent to commute. The applicant had to swear that he was taking the land in good faith, for the purpose of making a home, but the commutation clause allowed him to buy the land if his original plans should change.

Like the Pre-Emption Act, the commutation clause of the Homestead Act was often, perhaps generally, used fraudulently. A total of over 35,000,000 acres was acquired by commutation,

⁸⁹Stat. 19: 377.

⁹⁰Stat. I: 728; V: 453.

⁹¹Donaldson, *Public Domain*, 543.

⁹²Lumber Industry, I, 260, 261.

the Government receiving propably \$70,000,000 for lands worth over \$350,000,000, and the profit of nearly \$300,000,000 going largely to perjured entrymen and their employes. Chief of the Field Service, H. H. Schwartz, said of the operation of the act: "It has been my experience and observation in ten years of field service that the commutation homestead is almost universally an entry initiated with a full intent never to make the land a home. Actual inspection of hundreds of commuted homesteads shows that not one in a hundred is ever occupied as a home after commutation. They become part of some large timber holding or parcel of a cattle or sheep ranch." In the vicinity of Duluth, Minnesota, it was at one time a common practice for persons desiring to commute to take an ordinary dry-goods box, make it resemble a small house with doors, windows and a shingle roof. This box would be 14x16 inches, or larger, and would be taken by the entryman to his claim. On date of commutation proof, he would appear at the local office, swear that he had upon his claim a good board house, 14x16, with shingled roof, doors, windows, etc. The proof on its face would appear excellent, and was readily passed by the local officers. Thus in a variety of ways the commutation clause was used in the fraudulent acquisition of lands, often valuable timber lands; indeed it was more important in its effect upon the public timber than many of the later laws applying specifically to timber land.⁹³

Less important than the Pre-emption Act and the commutation clause, in promoting the alienation of timber land and the destruction of public timber, was the Desert-land Act of 1877, yet it must be mentioned here because it was sometimes used by timbermen. The process under this act was to make entry, with no intention of acquiring title, strip the land of its timber, and move on to other fields.⁹⁴

Another factor of considerable influence upon the public timber land was the system of land bounties for military service. Under various acts warrants were issued for a total of over 61,000,000 acres of land. By the provisions of the earlier acts the warrants were unassignable; but in 1852 Congress passed an

⁹³Rept. Nat'l. Conservation Comm., III, 391; Lumber Industry, I, 259-263; Donaldson, Public Domain, 540, 682, 1220; Conservation, Nov. '08, 579-584.

⁹⁴Rept. Land Office, 1881, 377.

act making them assignable, and warrants for nearly 35,000,000 acres were issued after this. These warrants were bought up in large quantities by speculators, and in this way large tracts of land, some of it timber land, were taken up by private holders.⁹⁵

Public sale was from the earliest times a common method of land disposal, and in the period of nearly a century during which sale was permitted, considerable areas were taken up, particularly in the South. Since there was no limit to the amount of land which could be acquired under the laws for public sale and private entry, those laws were used a great deal by timbermen wherever timber land was obtainable under their provisions.⁹⁶

In some of the southern states timber lands were for a while very effectually locked up from sale, if not from theft. At the close of the Civil War, in order to preserve homesteads for the negro freedmen Congress had passed a law providing that in Alabama, Mississippi, Louisiana, Arkansas and Florida, land should be disposed of only under the provisions of the Homestead Act.⁹⁷ This law affected much of the finest timber land in the country, and of course such a provision could not long withstand the demands of the timbermen. In 1871 Representative Boles of Arkansas tried to secure the revocation of the Act of 1866, but failed.⁹⁸ In 1875 Senator Clayton of the same state made a similar attempt.⁹⁹ Senator Jones of Florida, Boggy of Missouri, and Alcorn of Mississippi helped push the bill through, although Edmunds of Vermont secured an amendment providing that the lands should not be open to private entry until they had first been offered at public sale. With this amendment the measure passed.¹⁰⁰ The Senate vote on the final passage shows that the opposition to the measure came largely from the eastern states, while not a conservation vote came from any of the states to which the bill applied. In passing this bill Congress opened up vast tracts of rich yellow pine forests of the South, and during the latter eighties these lands were rapidly taken up by timbermen.

⁹⁵Lumber Industry, I, 258.

⁹⁶Ibid.; I, 185, 256-258; II, 147-149, 197, 218, 214.

⁹⁷Stat. 14: 67.

⁹⁸Cong. Globe, Feb. 11, 1871, 1157.

⁹⁹Cong. Rec.: Dec. 8, 1875, 185.

¹⁰⁰Stat. 19: 78. This bill is said to have become a law through the inaction of the President instead of by his signature.

While the history of the railroad land grants is too vast and complicated a matter for such a treatise as this, some account must be given, for the railroad land grants were by far the most important factor in producing the remarkable concentration of timber ownership which has recently come to be regarded as so serious a problem.

The era of Federal land grants for railroads covered the period from 1850 to 1871, and during that time the Government granted a total of 190,000,000 acres of land for the encouragement of railroad construction—an area greater than that of France, England, Scotland and Wales; greater than the states of Ohio, Indiana, Illinois and Michigan combined; greater than the New England and North Atlantic states, with Maryland, Virginia, West Virginia and Ohio thrown in; an empire, enough to provide every family living in the United States in 1870 with a twenty-acre farm.

These enormous figures cover only Federal land grants to railroads. They do not include Federal grants of about 9,000,000 for wagon roads, canals and river improvements; nor the grants made by the state of Texas, amounting to over 33,000,000 acres; nor do they include the millions of acres given to railroads, wagon roads and canal companies by the individual states.

It is true that much of the land granted was in non-timbered regions, but many of the grants traversed important timbered regions. The Northern Pacific grant crossed the timber belt of western Montana, northern Idaho and northeastern Washington, and also the great Pacific coast fir belt in western Washington. The grants later controlled by the Southern Pacific swept through the Pacific coast fir and pine belts from Portland southward to Sacramento. The Atlantic and Pacific grant in northern Arizona and New Mexico included considerable areas of western pine; and the Union Pacific had smaller timbered areas in Wyoming, Colorado and Utah. The grants in Michigan from about the forty-third parallel northward were in the white pine belt. So also were many of the grants in Wisconsin, and in the northern and northeastern part of Minnesota—covering perhaps a third of the granted area of that state. In the southern yellow pine belt were all the grants in Louisiana, Mississippi and

Florida and most of those in Arkansas and Alabama. A few of the grants were in hardwood regions.¹⁰¹

The importance of the railway grants as a means of timber land alienation was augmented by the passage of the Indemnity Act of 1874, which provided that if the land included in a railway grant was found in the possession of settlers the railroad might select other lands in lieu of it.¹⁰² This was an equitable and innocent enough provision apparently, but it enabled some of the railroads to acquire more valuable timber lands than their grants really entitled them to.

UNFAVORABLE LEGISLATION APPLYING SPECIFICALLY TO TIMBER

The various measures above discussed did not apply specifically to timber lands. Of legislation applying specifically to timber lands, and injurious thereto, perhaps the earliest example was the grant of materials, including timber on the public domain, for purposes of railroad construction. In 1822 Illinois was granted the right to use materials for the construction of a canal,¹⁰³ and in 1835 a railroad from Tallahassee to Saint Marks, Florida, was given materials for 100 yards on each side of the track.¹⁰⁴ In 1838 another Florida railroad was given materials within 20 rods of the track,¹⁰⁵ while a general right-of-way act, in 1852, gave to any railroad chartered within ten years, materials without any distance restriction,¹⁰⁶ and an act in 1872, granting a right of way to the Denver and Rio Grande, gave materials for construction *and repair*.¹⁰⁷ Here we can see increasing Congressional generosity. Several acts in 1873, 1874 and 1875 gave materials for construction, and in 1875 that privilege was made general.¹⁰⁸

It is true that in some cases this generosity was perhaps wise, but great abuses arose and a great deal of public timber was destroyed under cover of these provisions.

¹⁰¹See Lumber Industry, I, Ch. VI.

¹⁰²Stat. 18: 194.

¹⁰³Stat. 3: 659.

¹⁰⁴Stat. 4: 778.

¹⁰⁵Stat. 5: 253.

¹⁰⁶Stat. 10: 28.

¹⁰⁷Stat. 17: 339.

¹⁰⁸Stat. 18: 482.

THE FREE TIMBER AND TIMBER AND STONE ACTS

The year 1878 marks the passage of two acts of great importance in promoting the destruction of timber; the Free Timber Act and the Timber and Stone Act. In order to understand the passage of these acts, however, it will be necessary to note briefly the status of the public land laws as they related to timber.

Previous to the year 1878 no distinction was made between timber lands and other lands, so that timber lands could be acquired from the Government in several different ways; by public sale, by private sale, under the Homestead Law, under the Pre-emption Law, and by the use of military bounty warrants or some of the other forms of land scrip.

Public sale, as above pointed out, had been one of the earliest methods of land disposal, but after the adoption of the Homestead Law in 1862 public sale was not favored and at this time very little land had been offered for sale; except in the South—in Alabama, Arkansas, Florida, Louisiana and Mississippi, where all of the surveyed public lands were offered under the act of 1876.

No land could be entered at private sale unless it had first been offered at public sale, so that about the only lands available at private sale were in the southern states.¹¹⁰

The Homestead and Pre-emption laws had been devised for agricultural lands, not for timber lands, and the acquisition of timber lands under their provisions was often fraudulent—indeed the acquisition of much of the timber land in the West was *necessarily* fraudulent, since it was not fit for agriculture when cleared.

There was always a considerable amount of land scrip of various kinds, which could be used in acquiring title to public lands, but much of this was of course in the hands of speculators and so was obtainable generally only upon the payment of a speculative price. In securing land in this way it was necessary also to hunt out the holders of the scrip, and this was a somewhat petty business. Furthermore some of this scrip, as for

¹¹⁰Somewhat later than this considerable land seems to have been offered at public sale in various parts of the country, and in some sections, as for instance, the Upper Peninsula of Michigan, large tracts were taken up by timber-men at public and private sale. (Rept. Public Lands Comm., 1906, 199 et seq.: Lumber Industry: I, 185, 256-258; II, 147-149, 197, 213, 214; Donaldson, Public Domain, 206, 207, 415, 1159.)

instance the military bounty warrants, was available for location only upon public land which was subject to private cash entry, and for this reason was of no value in many sections of the country.¹¹¹

Thus there was in 1878 no general legal and honest way of acquiring public timber lands, or of the timber itself, in many parts of the United States, and when appropriations for the suppression of timber depredations became available, and under Carl Schurz the administration began a policy of law enforcement sufficiently vigorous to discourage timber stealing, those wanting timber sought other means of acquiring it. The result was the passage of the Free Timber Act and the Timber and Stone Act. The former provided free timber for settlers and the latter provided for sale of the lands.

As long as the law against timber cutting was not enforced, there had been no need for a free timber law, but when a policy of law enforcement was inaugurated, the response of the West was fairly prompt. As early as 1869, Representative Johnson of California had introduced a bill for the relief of persons taking timber from the public lands,¹¹² but the bill made no headway and Congress gave little evidence of interest in the matter for several years. In 1876 and in 1878 Chaffee of Colorado introduced bills into the Senate; "Authorizing citizens of Colorado, Nevada and the Territories to fell and remove timber on the public domain for mining and domestic purposes,"¹¹³ and in the latter year, by the help of Senator Sargent of California, got one of his measures through the Senate without difficulty. In the House, Patterson of Colorado, Page of California and Maginnis of Montana pushed the bill through, although not until Fort of Illinois compelled them to agree to an amendment giving the Secretary of the Interior control over the licenses to cut timber.¹¹⁴ As thus amended, Chaffee's bill became a law on June 3, 1878.¹¹⁵

Before this bill reached the House, however, a provision had been enacted as a rider to a special appropriation bill, which

¹¹¹Donaldson, *Public Domain*; 228, 232-237, 289, 290, 959, 950, 1276: *Lumber Industry*, I, 258.

¹¹²H. R. 563; 41 Cong. 2 Sess.

¹¹³S. 1078; 44 Cong. 2 Sess., Cong. Rec.; Oct. 17, 1877, 77.

¹¹⁴Cong. Rec.; May 9, 1878, 3323.

¹¹⁵Stat. 20: 88. Some time before this bill was signed, Representative Wren of Nevada introduced a similar bill into the House, but it received no attention. (Cong. Rec.; Mar. 11, 1878, 1646.)

accomplished, in the territories of the United States, practically the same thing, for one year. To the clause appropriating \$7,000 for investigating land entries a proviso was attached, that where timber lands were not surveyed and offered for public sale, none of the money appropriated should be used to collect a charge for timber cut for the use of actual settlers.¹¹⁶ Much of the land had not been surveyed, and very little had been offered for sale, so that the appropriation made for timber protection was thus very closely circumscribed in its use. The effect of the proviso was clinched by another provision, that all moneys collected for depredations should be covered into the treasury like other public land receipts. Money thus collected from the sale of stolen timber had long been a fund for the prosecution of trespassers.

It should be stated that there was considerable justice behind the demand of the western states for free timber. In many parts of the West there were apparently inexhaustible forests, some of the timber ripe or rotting; and with no apparent prospect that the Government would soon make any use of it, there seemed to be little justice in denying the miners and settlers the use of some of the timber.

Had there been a law permitting the sale of timber on the public lands by means of a system of licenses, such as had been provided for in Canada over fifty years before,¹¹⁷ there would have been no real need for legislation at this time, but no such policy had ever received serious consideration in political circles in the United States, and when Congress acted, it produced on the same day, June 3, 1878, the Free Timber Act just described, and the Timber and Stone Act, the latter of which launched the United States definitely upon the policy of turning over timber lands to private ownership.

Considering public sentiment, and even scientific opinion, as it was in 1878 and previously, it is not surprising that Congress should have provided for the sale of timber lands. It seems strange rather, that the law was not passed sooner, for the policy of sale had been recommended by almost all writers on the subject. In 1870 R. W. Raymond, Commissioner of Mining and Statistics, in his complaint regarding timber depredations, said:

¹¹⁶Stat. 20: 46.

¹¹⁷Hough, I, 518.

"The entire standing army of the United States could not enforce the regulations. The remedy is to sell the lands."¹¹⁸ In 1874 the Commissioner of the Land Office, J. M. Edmunds, said in his annual report: "These lands should be quickly disposed of to prevent the depredations now going on,"¹¹⁹—and in this recommendation Secretary of the Interior Delano concurred. In his report of 1878, Commissioner Edmunds again urged sale, and his successor, J. N. Williamson, seemed to favor the same policy in 1876, although in 1878 he expressed a different view.¹²⁰ Even the committee of the Association for the Advancement of Science appointed in 1873 reported: "We do not recommend the undertaking of this industry by the Government,"¹²¹ although they added qualifications that could fairly be interpreted to favor a system of national forests. F. B. Hough, of that Society, in his first report on forestry in 1877, also said that our Government could not undertake the management of forests, because the officers would be politicians instead of foresters. Of course if the Government could not manage the forests it must sell, yet Hough spoke favorably of the Canadian system of retaining the land and selling stumpage.¹²² Secretary Schurz was always in favor of Government reservation of timber lands, but he said little about it, perhaps realizing that there was no possibility of such a policy being adopted.¹²³

It is not really surprising that in the seventies, sale should have seemed the only practicable policy in dealing with timber land. The public domain covered an immense area of over a billion and a quarter acres, more than a billion acres of it unsurveyed.¹²⁴ No surveys having been made, there is no record of the amount of timber land included in this total, but the fact that about 150,000,000 acres of forest reserves were later carved out, after private individuals had taken the best lands, indicates that there was a vast area of timber land at that time. The wisdom of Government management of such an enterprise might well have been questioned, especially since Congress had never evinced a capacity to deal efficiently and intelligently with the

¹¹⁸H. Ex. Doc. 207; 41 Cong. 1 Sess., 248.

¹¹⁹Rept. Land Office, 1874, 6.

¹²⁰Rept. Land Office, 1876, 7; Rept. Sec. of Int. 1878, XV.

¹²¹Rept. Committee of Assoc. for Adv. of Science, 40.

¹²²Hough, I, 194.

¹²³Rept. Sec. of Int. 1877, XVI, XIX.

¹²⁴Rept. Sec. of Int. 1878, 6.

lands, while various scandalous exposures since the Civil War had shown a low standard of political morality which promised little for Federal management of anything. With public opinion almost everywhere favoring the policy of sale, and only a few doubtful voices opposing, a law to carry out that policy was inevitable.

As early as 1865 Senator Conness of California introduced a bill for the sale of timber lands in that state, but the Committee on Public Lands asked to be discharged from its consideration.¹²⁶ In 1871 Delegate Garfield of Washington and Representative Sargent of California introduced bills for the sale of timber lands in the coast states, and one of these measures passed the House,¹²⁶ as did also a bill introduced by Slater of Oregon, proposing to give settlers the right to buy 40 acres of timbered land for each 160 acres of untimbered land occupied by the applicant.¹²⁷ Several timber sale bills appeared in the next few years, most of them fathered by western men—Representatives Page and Pacheco of California,¹²⁸ Maginnis of Montana,¹²⁹ and Patterson of Colorado.¹³⁰ Measures were also introduced, however, by Dannel and Averill of Minnesota,¹³¹ and even by men from farther east—Representative Salyer of Ohio¹³² and Senators Boutwell of Massachusetts and Kelley of Pennsylvania.¹³³

Some of these bills provided sale at appraised value, or at a fixed minimum, and in the debates on Senator Kelley's measure an amendment was offered providing a fixed minimum price; but this amendment was defeated in the Senate by a vote of 36 to 9—its meager support coming mainly from the eastern states.¹³⁴

As already stated, Sargent's bill of 1871, and Slater's measure of the following year passed the House of Representatives. Two years later the bill originally introduced by Page of California, providing sale at \$2.50 per acre, also passed the House

¹²⁶S. 379; 38 Cong. 2 Sess., Cong. Globe; Feb. 16, 1865, 811.

¹²⁶H. R. 2930, H. R. 3005; 41 Cong. 3 Sess.: H. R. 274; 42 Cong. 1 Sess.; Cong. Globe; Feb. 11, 1871, 1158.

¹²⁷H. R. 3101; 42 Cong. 3 Sess.

¹²⁸H. R. 410; 43 Cong. 1 Sess., H. R. 1154; 45 Cong. 1 Sess.

¹²⁹H. R. 660; 44 Cong. 1 Sess., H. R. 797; 45 Cong. 1 Sess., H. R. 2658; 45 Cong. 2 Sess.

¹³⁰H. R. 3981; 45 Cong. 2 Sess.

¹³¹H. R. 323; 44 Cong. 2 Sess., H. R. 4480; 43 Cong. 2 Sess.

¹³²H. R. 1191; 44 Cong. 1 Sess.

¹³³S. 471; 43 Cong. 1 Sess., S. 6; 44 Cong. 1 Sess.

¹³⁴Cong. Rec.; Feb. 16, 1876, 1101; Feb. 21, 1187.

without opposition;¹³⁵ and in 1878 a bill was introduced by Sargent, providing for sale in California, Oregon, Washington and Nevada. This act was intended as a supplement to the Free Timber Act, which did not apply to the Coast states—California having been omitted from the provisions of the latter act at the request of Sargent himself; and it passed both houses with scarcely an opposing voice.¹³⁶

CONCLUSION

Thus it appears that at the end of the year 1878 most of the factors which were to determine the fate of our American forests were already at work. Some steps had been taken in the direction of conservation. A few private individuals, Government officials, associations and societies had evinced considerable interest in the matter. Some of the states had taken a few wobbly steps in the direction of forest protection and forest planting; while the Federal Government had appropriated funds for protection and investigation and had made an unsuccessful attempt at timber culture. These factors must not be given too much emphasis, however. Conservation sentiment, although destined to grow in influence within the next few decades, had as yet acquired little momentum; and in 1878 it seemed to be developing power less rapidly than the anti-conservation spirit which had risen to meet it. State action had been generally ineffective, Federal efforts vacillating and often futile, and all tree planting worse than a failure.

Forces unfavorable to conservation had on the other hand attained formidable power. Swamp land grants, grants for education, military bounties, and the whole hydra-headed system of grants and concessions to the railroads had provided means for the alienation of several hundred million acres of land—some of it timber land. The Pre-emption, Commutation Homestead, Desert Land, Public Sale and Private Entry laws were available to timbermen for the acquisition of remaining tracts; and there was no reason to expect that any of these laws would soon be repealed. The Free Timber and Timber and Stone acts completed the category of iniquitous statutes. The manner in which these various factors operated to accom-

¹³⁵Cong. Rec.; Feb. 22, 1875, 1597.

¹³⁶Cong. Rec.; Apr. 18, 1878, 2640; Apr. 25, 1878, 2842; May 11, 1878, 3387, 3388.

plish the destruction or alienation of most of the valuable public timber during the following year; and the manner in which the conservation forces finally saved to the American public a frazzled remnant of their original magnificent heritage, will constitute the subject matter of a future monograph.